REMARKS

Reconsideration of this Application is respectfully requested. With the foregoing amendment, claims 1-19 are pending in the application, with claims 1, 7, 13, and 19 being in independent form. Claims 1, 2, 4, 7, 10, and 13-17 have been amended. No new matter has been added to the application. Based on the following remarks, Applicants respectfully requests that the Examiner reconsider all outstanding objections and rejections, and that they be withdrawn.

Allowable Subject Matter

Applicants wish to thank the Examiner for indicating that claims 1-6 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. section 112, second paragraph set forth in the Final Office Action. Applicant's have amended claims 1-6 to overcome the section 112 rejections. Therefore, Applicants respectfully request the Examiner to indicate that claims 1-6 are allowable.

Objection to the Drawings

At paragraphs 2 and 3 of the Office Action, the drawings are objected to. To overcome the objection, Applicants submit herewith a proposed drawing correction of Fig. 1, with the proposed changes indicated in red ink. Applicants respectfully submit that no new matter has been added. Accordingly, the Examiner is kindly requested to acknowledge receipt and indicate approval in the next Office Action.

Rejection Under 35 U.S.C. § 112

At paragraph 11 of the Office Action, claims 1, 4, 7, 10 and 13 are rejected as being indefinite. More specifically, the Examiner has requested Applicants to specify clearly what "entity" means in the claims. Applicants respectfully submit that the term "entity" is intended by Applicants to have the same meaning as its dictionary definition. For example, according to *Webster's II New College Dictionary, 1995*, the definition of entity is: "something that exists as a particular and discrete unit."

First Rejection Under 35 U.S.C. § 103

At paragraph 5 of the Office Action, claims 7 and 13-14 are rejected as being unpatentable over *Wheatley et al.* (US 5,212,730) (hereafter "*Wheatley*"). Applicants respectfully traverse these rejections and submit that the rejected claims are allowable over the art of record.

With respect to independent claim 7, Applicants submit that the Office has not established a *prima facie* case of obviousness. To establish a prima facie case of obviousness, the Office must show that *Wheatley* teaches or suggests all of the features of claim 7. *See M.P.E.P. § 2143.*

Applicants submit that *Wheatley* does not teach or suggest all of the features of claim 7. For example, at the least, *Wheatley* does not teach or suggest:

> A computerized method of searching a database containing records associated with a plurality of different proper names to find at least one record matching an input proper name, comprising the steps of:
>
> converting at least a portion of the different proper names in the database to a pronunciation equivalent phonetic ***alphabet*** representation equivalent to at least a portion of said respective proper names; ...
>
> receiving data representing the input proper name ***as a string of characters***;
>
> converting the data representing said input proper name using the same said pronunciation equivalent phonetic *alphabet* representation, equivalent to at least a portion of said input proper name; ...

as is recited in claim 7.

Wheatley teaches a name recognition technique. The name recognition technique taught by *Wheatley* involves the following steps:

> (a) entering text into a database, wherein the text corresponds to a name; (b) constructing one or more HMM recognition models for each name stored in the

database; and (c) storing the HMM recognition models in a database so that they can be used for name recognition operations. *Col. 2, lines 23-65 and Col. 4, lines 8-54.*

Consequently, it is apparent that *Wheatley* does not teach or suggest that the names in the database are converted to "a pronunciation equivalent phonetic ***alphabet*** representation ...," as is recited in claim 7 (emphasis added). Rather, *Wheatley* teaches that the one or more HMM recognition models are constructed for each name in the database. *Id.* Applicants respectfully submit that an HMM recognition model does not teach or suggest a "phonetic alphabet representation."

Moreover, according to *Wheatley:*

> "[n]ame recognition operations are initiated by the ***spoken input of a name***, which is converted into a corresponding speech signal.
>
> The speech signal is input into an HMM recognition engine. Using conventional HMM recognition techniques, the HMM recognition engine access the ... database [that stores the HMM recognition models], and compares the speech signal with the HMM recognition models looking for a pattern match. *Col. 4, lines 55-63* (emphasis added).

Thus, *Wheatley* does not teach or suggest "receiving data representing the input proper name ***as a string of characters***," as is also recited in claim 7 (emphasis added). Rather, *Wheatley* teaches that "name recognition operations are initiated by the ***spoken input of a name*** ...." *Col. 4, lines 55-57* and *FIG. 1, elements 24 and 25.* There is simply no teaching or suggesting in *Wheatley* to receive the input name as a string of characters. The entire point of *Wheatley* is to provide a system for recognizing the ***spoken*** rendition of names. *See Col. 2, lines 12-20* ("The invention is a name recognition technique using text-derived recognition models in recognizing the spoken rendition of name texts that are susceptible to multiple pronunciations ...). Thus, *Wheatley* does not teach or suggest "receiving data representing the input proper name as a string of characters," as is recited in claim 7.

For at least these reasons given above, *Wheatley* does not teach or suggest all of the features of claim 7. Therefore, the Office has not established a prima facie case of obviousness, and Applicants respectfully request that the rejection of claim 7 be withdrawn.

With respect to independent claim 13, the above remarks for claim 7 apply. And, with respect to claims 8-12 and 14-18, these claims are allowable for at least the reasons given above because these claims depend from one of claims 7 and 13.

Second Rejection Under 35 U.S.C. § 103

At paragraph 9 of the Office Action, claim 19 is rejected under 35 U.S.C. section 103(a) as being unpatentable over Hermansen, "Automatic Name Searching in Large Data Bases of International Names," 1985 (hereafter "the *Thesis*"). Applicants respectfully traverse this rejection and submit that the rejected claims are allowable over the art of record.

Applicants submit that the Office has not established a *prima facie* case of obviousness. To establish a prima facie case of obviousness, the Office must show that the *Thesis* teaches or suggests all of the features of claim 19. *See M.P.E.P. § 2143.*

Applicants submit and the Office agrees that the *Thesis* does not teach or suggest all of the features of claim 19. For example, at the least, the *Thesis* does not teach or suggest:

> selecting a set of names that are stored in the database, wherein the selection is based on a culture-relevant key-indexing strategy ....

as is recited in claim 19.

Moreover, the Office has not shown that there is some suggestion or motivation to modify the *Thesis* to produce the claimed invention. The Office merely asserts that it would be obvious to "[select] a set of names that are stored in the database, wherein the selection is based on a culture-relevant key-indexing strategy." But, the Office presents no evidence or reasoning whatsoever to support its assertion. Thus, because the Office's determination of obviousness is conclusory, the rejection of claim 19 should be withdrawn.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections, and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Attached hereto as Appendix A is a marked-up version of the changes made to the specification and/or claims by the current Amendment.

Favorable consideration of this application is respectfully requested.

Respectfully submitted,

MINTZ, LEVIN, COHN, FERRIS, GLOVSKY, AND POPEO PC

Brian S. Rosenbloom
Attorney for Applicants
Registration No. 41,276

Date: 04/17/01

11911 Freedom Drive, Suite 400
Reston, Virginia 20190
(703) 464-4810

APPENDIX A

Claim amendments – Version with markings to show changes made

1. (Amended) A computerized method of comparing proper names, comprising the steps of:

obtaining data representing a first proper name that designates an entity and a second proper name;

converting the data representing said first and second names to first and second pronunciation equivalent phonetic alphabet representations, equivalent to at least respective portions of said first and second names;

comparing said first and second pronunciation equivalent phonetic alphabet representations to determine a likelihood that said [first and second names represent] second name also designates the [same] entity; and

producing a signal indicating said likelihood that said [first and second names represent] second name designates the [same] entity.

2. (Amended) The method of claim 1 wherein said data representing said first proper name and said second proper name is obtained as a string of characters.

4. (Amended) The method of claim 1 including the further step of processing at least one of said first and second names to assign to said [name] at least one of said first and second names one of a set of categories of likely ethnic origin of said [name] at least one of said first and second names, wherein said comparison of said first and second phonetic alphabet representations is performed according to an algorithm that varies depending on said assigned category of likely ethnic origin.

7. (Amended) A computerized method of searching a database containing records associated with a plurality of different proper names to find at least one record matching an input proper name, comprising the steps of:

converting at least a portion of the different proper names in the database to a pronunciation equivalent phonetic alphabet representation equivalent to at least a portion of said respective proper names; [and]

assigning said pronunciation equivalent phonetic alphabet representation as keys for records in said database corresponding to said different proper names;

receiving data representing the input proper name as a string of characters;

converting the data representing said input proper name using the same said pronunciation equivalent phonetic alphabet representation, equivalent to at least a portion of said input proper name;

comparing said phonetic alphabet representation of said input proper name to said record keys to determine a likelihood that said input proper name represents [the] an entity associated with said record;

eliminating as potential matches those records for which the likelihood that said input proper name represents the entity associated with said record key falls below a predetermined threshold; and

processing the records remaining after said eliminating step as potential matches for said input proper name.

10. (Amended) The method of claim 7 including the further step of processing said input proper name to assign to said input proper name one of a set of categories of likely ethnic origin of said input proper name, wherein said comparison of said phonetic alphabet representation to said record keys is performed according to an algorithm that varies depending on said assigned category of likely ethnic origin.

13. (Amended) A name processing and matching system comprising:

a database containing a plurality of proper [name database entries] names and records associated respectively with said proper names, wherein each one of said proper names represents an entity;

database processing means associated with said database for [converting at least a portion of each of said plurality of proper name database entries] creating, for each of said plurality of proper names, a pronunciation equivalent phonetic alphabet representation of at least a portion of said proper name using a [pronunciation equivalent] phonetic alphabet [representation, equivalent to a respective portion of said proper name database entries];

input receiving means for receiving data representing an input proper name, wherein the data representing the input proper names is received as a string of characters;

phonetic processing means associated with said input receiving means for [converting at least a portion of said data representing said input proper name] creating a pronunciation equivalent phonetic alphabet representation of at least a portion of said input proper name using said [pronunciation equivalent] phonetic alphabet [representation];

comparison means associated with said database processing means and said phonetic processing means for comparing said pronunciation equivalent phonetic alphabet representation of said input proper name to said pronunciation equivalent phonetic alphabet representations of said proper [name database entries] names to determine, for each of said proper names, a likelihood that said input proper name represents the same entity as [each of] said [database entries] proper name; and

output means associated with said comparison means for eliminating as potential matches those records associated with a proper name [database entries] for which the likelihood that said input proper name represents the entity [associated with] represented by said [database entry] proper name falls below a predetermined threshold, and for processing the records remaining after said eliminating function as potential matches for said input proper name.

14. (Amended) The system of claim 13 wherein each of said plurality of proper [name database entries] names [and said data representing said input proper name are strings] consists of a string of characters.

15. (Amended) The system of claim 13 wherein said phonetic alphabet [representation] is an International Phonetic alphabet [representation].

16. (Amended) The system of claim 13 further comprising name classifying means for processing said input proper name to assign one of a set of categories of likely ethnic origin of said input proper name, wherein said comparison means comprises variable processing means for performing said comparison of said pronunciation equivalent phonetic alphabet representation of said input proper name to said pronunciation equivalent phonetic alphabet representations of said proper [name database entries] names according to an algorithm that varies depending on said assigned category of likely ethnic origin.

17. (Amended) The system of claim 16 wherein said variable processing means compares different portions of said pronunciation equivalent phonetic alphabet representation of said input proper name to said pronunciation equivalent phonetic alphabet representations of said proper [name database entries] names, depending on said assigned category of likely ethnic origin.